

**Summary of the Harmful Algal Bloom and Hypoxia Research Amendments Act of 2003,  
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**What are harmful algal blooms and hypoxia?**

Harmful algal blooms (HABs) occur in aquatic environments when conditions trigger the rapid growth of plankton that produce toxins detrimental to aquatic life and to humans. HABs have been estimated to cost the U.S. economy \$50 million per year, due to closure of fisheries and beaches and treatment of human illness from exposure to toxins. However, severe single events, such as the 1997 *Pfiesteria* outbreak in the Chesapeake Bay, have cost that amount alone.

Hypoxia is a condition, created by the decomposition of algal blooms, where oxygen levels are depleted to levels unable to support aquatic life. This disrupts the food webs that support fish and shellfish growth, causing economic and ecological damage of its own.

HABs and hypoxia cause problems throughout the United States. For example: in the state of Washington, the entire razor clam fishery has been closed since October 2002 due to high levels of toxins from a HAB; in Florida, the death of 60 manatees and severe respiratory problems in beach-goers over the past two months is blamed on a HAB; in California five dolphins and 148 sea lions were found stranded on beaches the spring, sick from HAB toxins; and in the Gulf of Mexico, severe hypoxia occurs over an area the size of New Jersey each summer.

**What has Congress done to address these problems?**

In 1998 Congress passed the Harmful Algal Bloom and Hypoxia Control Act. The Act established an interagency task force on HABs and hypoxia and authorized funding for HAB and hypoxia research through NOAA. These programs have received about \$17 million a year, although the authorization levels were for \$19 million.

Rep. Ehlers (R-MI), Chairman of the House Subcommittee on Environment, Technology and Standards, held a hearing in March about HABs and hypoxia. Witnesses testified that HABs and hypoxia are a national problem and that since 1995 the occurrence of HABs and hypoxia in the Great Lakes has been steadily increasing. It was evident from this hearing that it is time for Congress to reauthorize the HAB and hypoxia programs in the 1998 Act and to expand its scope to include the Great Lakes.

**What will this legislation do to address HABs and hypoxia?**

The Harmful Algal Bloom and Hypoxia Research Amendments Act of 2003 would provide direction for critical funding (average authorization of \$30 million annually over 3 years) for research to improve our response to HABs and hypoxia in the following ways:

- The 2003 Act requires the **development of research plans on previously overlooked aspects** of the problems, namely **Great Lakes HABs** and the **development of prevention, control and mitigation methods**. The Act authorizes an additional \$2 million for research on freshwater HABs, which would be available through a peer-reviewed grant process. Also, it authorizes \$2 million for research on prevention, control and mitigation, an authorization that has not received funding in the past due to lack of a research plan.

- The 2003 Act provides a mechanism for **regional and local assessments of HABs and hypoxia**, with \$3 million annually for such projects, because the causes of HABs and hypoxia vary with regional water use, land use, and ecology, and **increases the participation of local resource managers** in this process, ensuring that our investment in research produces useful tools for the people dealing with the problems on a daily basis.
- The 2003 Act **reauthorizes funding for programs that have been effective** at improving our scientific understanding of HABs and hypoxia, namely the **Ecology and Oceanography of Harmful Algal Blooms (ECOHAB) program and the Monitoring and Event Response for Harmful Algal Blooms (MERHAB) program**.

For example, these programs provide funding that facilitates the development of models to predict the occurrences of HABs and hypoxia, probes for detecting HAB organisms in the water, and more intensive plankton monitoring programs in coastal communities.

- The 2003 Act requires **scientific assessments of HABs and hypoxia on a regular basis**, providing a means to continuously target our resources in an effective manner.